BTEC Assignment Brief

Qualification	Pearson BTEC International Level 3 Certificate in Information Technology Pearson BTEC International Level 3 Subsidiary Diploma in Information Technology Pearson BTEC International Level 3 Foundation Diploma in Information Technology Pearson BTEC International Level 3 Diploma in Information Technology Pearson BTEC International Level 3 Extended Diploma in Information Technology
Unit number and title	**Unit 25: Full Stack Development**
Learning aim(s)	Learning aim B: Design a full stack solution for an identified client Learning aim C: Develop a full stack solution for an identified client
Assignment title	Designing and developing a full stack solution
Assessor	
Issue date	
Hand in deadline	

Vocational scenario or context	Congratulations! Your interview with Soume Computing was a success and you are now a junior developer at the company. Soume Computing has just been commissioned by Dern-Support to develop a solution to support its business operations and help it expand the services it offers. Dern-Support is an small IT technical support company that repairs computer systems for businesses and individual customers. The company provides on-site support for business customers. Individuals must either drop their computer off at one of the company's offices or arrange for it to be delivered by a courier. You have been asked to design a software solution that supports the company's growing needs. Your software solution must allow customers to: • set up a business or individual customer account • submit support requests, schedule a repair and get a quote for the cost of the job • access a knowledge base that will: o diagnose a problem o provide instructions on how to fix minor hardware and software issues. Your software solution must allow the company to: • search for and edit details of spare parts it has in stock • schedule and prioritise daily jobs

	• identify patterns and trends in data to inform management decisions (e.g. common issues dealt with, time taken to complete jobs, customer satisfaction and locations of business support jobs). You may also wish to consider any additional functionality you feel would be useful to the client based on any research you may carry out as part of the initial proposal.

Task 1a	Your manager has asked you to produce a comprehensive set of documentation that will inform the development and testing of a full stack solution that will meet the needs of Dern-Support. You should produce a proposal that includes, as a minimum: • an overview of the business context and summary of the problem • a description of the proposed solution • functional and non-functional requirements • key performance indicators (KPIs) that will be used to measure the success of the proposed solution • risks and implications of the proposed solution. You should review your proposal with the client, revise as necessary and gain approval to continue before starting to design you solution.
Task 1b	When you have gained approval from the client, you should produce a set of software design documents, which will include, as a minimum: • functional and non-functional requirements specifications • algorithm design documentation (e.g. flow charts and pseudocode) • visual design documentation • data requirements design (e.g. entity relationship diagrams (ERDs) and data dictionaries) • accessibility and inclusivity considerations (e.g. alternative layouts and support for inclusive technologies) • details of components that will be reused/refactored from other solutions or third-party sources. Review your design documents with at least two other people to help you refine and improve them. You must keep a record of any feedback given, along with any changes made. You should also write a justification for the design decisions you have made, and any changes actioned showing how they have helped ensure the planned software solution will meet the requirements identified in the scenario.
Task 1c	After reviewing your designs, your manager has asked you to produce your full stack solution. Develop the solution based on your designs, ensuring that it makes use of a full deployment stack. You should make use of

	whichever tools and techniques are most appropriate for your chosen stack and for the nature of the proposed solution. Test your software solution using a number of different methods, including test plans and unit test cases (UTCs) you have written. You should document your tests showing the problems and errors that have been identified and addressed. Gather and analyse feedback from other people and use it to refine your solution and produce an updated version. Write an evaluation of your solution, considering its efficiency, effectiveness, and the extent to which it meets the requirements in the scenario. Your evaluation needs to be supported by evidence from the development and testing stages. Your evaluation should reach conclusions and suggest ways that the software solution could be developed in the future.

Checklist of evidence required	• Software project proposal. • Design documents for a full stack solution. • Feedback on the documentation/designs collected from others. • Improved version of the documentation/design. • Written justification of design decisions. • Completed software solution (including initial and refined version). • Copies of any source code produced. • Test documentation and user feedback. • Analysis of feedback and evidence of refinement of solution. • Evaluation of the development, testing and refinement process.

Criteria covered by this task:	
Criteria reference	To achieve the criteria you must show that you are able to:
BC.D2	Evaluate the design and development of a refined full stack solution against identified requirements.
B.M2	Refine the proposal and designs in response to feedback, justifying any changes made.
C.M3	Use iterative development processes to produce a full stack solution that makes effective use of front-end and back-end processes to meet identified requirements.
B.P3	Produce a proposal and a set of designs for a full stack solution that meets client requirements.
B.P4	Review designs with others to identify and inform improvements.
C.P5	Produce a full stack solution to meet identified requirements.
C.P6	Test and review a full stack solution to resolve defects.

Sources of information to support you with this Assignment	
Other assessment materials attached to this Assignment Brief	